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Roger Sperry's Brain Research—Mind in the driver's seat—Science not in the traditional sense of reducing everything including the human psyche to quantum mechanics—A new philosophy and a new world view

IN Feb./Apr., 1988 *Bulletin* we briefly highlighted at page 23, Dr Roger Sperry, NL with his new philosophy and new world view borne out of his researches on the holistic aspects of brain. We give below a more detailed account of his views excerpted from *Kaos New Year Special*, 1987, 9, and *Sunrise Theosophic Perspectives*, Dec. 87/Jan., 88, 37-41. The implications are profound not merely for the advancement of science but for the good of humanity and the world. We use the word profound because with this view we are able to fathom all aspects of the problem of man with consciousness, and not merely the brain, at the centre, i.e., the approach is not merely intellectually satisfying and therefore considered scientifically valid. In a simple way one can illustrate this by stating that if we do any work it must not be merely for work satisfaction but how that work affects others, implying a deep consideration for others. If we have profound knowledge in the real sense, such knowledge can have eminence in the scale of values which the field of knowledge has carved out for itself and at the same time it must be satisfying and beneficent to all who are being affected by such knowledge and its application. Not only should such knowledge be capable of beneficent effect there should be the will and driving force of all those who are involved in bringing that knowledge and beneficiency into fruition. This 'New Mindset on Consciousness' adumbrated by Roger Sperry has that potentiality of wholeness because it is not just putting brain consciousness in opposition to the Consciousness of the Mind. The Consciousness which has paved the way for higher values as emergent properties is holistic, pointing in the direction of unity of existence and that is how Theosophy reaches towards integrated understanding. Let us look at this new outlook —'the *latest* views in science, which bring a new philosophy and a new world view'—in the words of Dr Sperry.

'As a brain researcher, I'd started out simply accepting the strictly objective principles of the behaviorist position. In the 1950s and early 1960s, all respectable neuroscientists thought in these terms. In those days, we wouldn't have been caught dead implying that consciousness or subjective experience can affect physical processing.

'My first break with this thinking —although I certainly didn't see it that way at the time—came in a 1952 discussion of mind-brain theory in which I proposed a fundamentally new way of looking at consciousness. In it, I suggested that when we focus consciously on an object—and create a mental image for example—it's not because the brain pattern is a copy or neural representation of the perceived object, but because the brain experiences a special kind of interaction with that object, preparing the brain to deal with it.

'I maintained that an identical feeling or thought on two separate occasions did not necessarily involve the identical nerve cells each time. Instead, it is the operational impact of the neural activity pattern as a whole that counts, and this depends on context—just as the word "lead" can mean different things, depending on the rest of the sentence.

'A major influence on my thinking was biologist Lloyd Morgan's writings on emergent evolution, dating back to the 1920s. The central point of this thesis is that when parts come together in a new whole, this new whole exhibits features—emergent properties—that can't be predicted as a rule from the parts, and cannot be explained entirely in terms of the parts. In this context, consciousness and other subjective qualities, such as ideas, feelings, values, and emotions that we associate with "mind", could be thought of as emergent properties of the physical brain. They could also be understood—and this was the novel step—as having an actual functional role in brain processing....

'From an experimental standpoint, the problem came to a head when we found that once you cut communication between the brain's left and right hemispheres by surgically severing the band of fibers that connect them, there were certain experimental settings in which our subjects appeared to be experiencing two independent consciousness under a single cranium. Each side of the surgically divided brain apparently had a mind of its own that was not a party to any of the experience of the other hemisphere.

'Now, how did this work—did it imply that with a knife you can create a second consciousness or reveal its presence? It seemed to me a better solution could be seen in terms of emergent properties. When the brain is whole, the unified consciousness of the left and right hemispheres adds up to more than the individual properties of the separate hemispheres. So these studies raised the issue of consciousness in a new way. What we say in brief, was emergent control—control from above downward—in the context of brain function. I described this view as one which places mind in the driver's seat in the brain, in command over matter. ...

'After the considerable early criticism I had encountered in the scientific community, this turnabout in psychology provided some highly welcome reassurance. At this point I had to decide whether to continue giving priority to split-brain studies, or to make my priority the new view of consciousness. ... The mind-brain issues are intrinsically more compelling. They carry strong humanistic as well as scientific implications. **I could foresee changes in our world view, guiding beliefs, and social values. In the context of today's worsening world conditions and our imperiled future, this work seemed far more important than whether you can**

find a brain theory enabling people to learn faster, draw better, make better medical diagnoses, and so on. (*Emphasis added by the Editor*).

'It's been the traditional role of religion to affirm the primary importance of our higher values in this world by invoking a supreme power. In cognitivism, it is science that affirms the powerful controlling role of higher values, and it is able to do so on grounds that are verifiable—that is, testable against reality as it really is.

'On these new terms, science no longer upholds a value-empty existence, in which everything, including the human mind, is driven entirely by strictly physical forces of the most elemental kind. We get a vastly revised answer to the old question "What does science leave to believe in?" that gives us a different image of science and the kind of truth science stands for.

'On another level, cognitivism bridges the chasm between what the writer C.P. Snow has called the "two cultures" —the widening gap between the world view of the scientist and the humanist. The Caltech philosopher W.T. Jones has called this *the* crisis of contemporary culture.

'Actually I think time will show that the new approach, emphasizing emergent "macro" control, is equally valid in all the physical sciences, and that the behavioral and cognitive disciplines are leading the way to a more valid framework for all science.' [We refer our readers to the article 'A celestial supportive evidence ... of inbuilt intelligence ...' by Hasmukh K. Tank in this issue.—Ed.]

Dr Sperry further states (*KAOS*) 'Science, here, is not to be taken in the usual, traditional sense of referring to things that can be handled by numbers and measurements alone, and according to which everything in principle—including the human psyche —reduces to quantum mechanics. ... The feature that is new—and what offers new promise at this time—is the recent revisions that have emerged in science since the late sixties, as a result of the so-called consciousness or mentalist revolution in the behavioral and neurosciences. These bring changed views of Nature, of the human psyche, of the relation of mind to matter, of the relation of science to values, and related developments now transforming the scientific outlook, and its moral and value implications. **Nature and all reality are no longer conceived to be determined solely from below upward, but also from above downward. The higher mental, vital and social forces, including the full spectrum of human needs and values, are now given their due, along with physics and chemistry.** ... (*Emphasis added by Editor*).

'Accepting the primacy of conscious mental and vital forces, on the one hand, while rejecting dualist otherworldly or supernatural existences on the other, the new philosophy contains many compromise features. It offers a basis for belief, and for rule of conduct, intermediate between the two main, opposing ideologies now dominant in the Communist and Free worlds. This would seem to make it an ideal candidate as a starting foundation for international rule.

'In addition to its compromise features, the new outlook leads to a value/belief system that supports environmental protection, with reverence for evolving nature and the trends, in creation, toward increased quality and meaning. The kind of moral code that emerges makes it sacriligious to plan and build for nuclear annihilation, or to pollute, overpopulate, deplete irreplaceable resources, eradicate or demean other species, or in any other way despoil or defile the quality of the biosphere for future generations. ...

'For the common good, we need to frame and abide by a higher system of law and justice, designed with less national, more godlike, perspectives for the preservation and welfare of the biosphere as a whole. The intellectual, scientific and moral foundations are already in sight. Control of nuclear armaments is a logical place to start their implementation.'

* * *

Environmental Chemical Influences on Behavior, Personality and Mentation

Dr D. Bryce-Smith of Reading University, England in his *The John Jeyes Lecture* (Royal Society of Chemistry) provides 'a detailed critique of the present "two cultures" to the understanding and treatment of disorders in the way we think and act, and the social phenomena to which such disorders can give rise. In the social and political sciences, it is widely assumed that social phenomena primarily have social causation, and public policies on such problems as criminality, educational underachievement, and the effects of poverty are usually tacitly geared to this assumption. ... yet paradoxically such "disorders of the mind" are commonly treated with neuroactive chemical drugs which have no obvious connection with sensory inputs from the social environment, or classical psychiatric concepts such as mind, ego, etc.

'Evidence is presented that nonsensory influences on mental functions (e.g., dietary deficiencies, neurotoxic drugs and pollutants, allergic hypersensitivity) can and do exert powerful influences on the ways in which we think and act. It is proposed that neglect of this "chemical" or "non-social" dimension and its intimate interaction with social influences is at least partly responsible for the widespread failure to understand, remedy, or prevent some of the most apparently intractable problems of our times such as criminality, and psychiatric disorders such as anorexia nervosa. ...

'Conclusion

The main thesis can be simply stated. Changed brain chemistry can alter behavior, and changed behavior can alter brain chemistry: the interaction is two-way. In a sense, this is an application of Newton's Third Law. It therefore follows that behavior, cognition, social interactions, and other expressions of brain function are subject not only to the social environment but also to certain aspects of the chemical environment. The relevant chemical factors include (a) neurotoxic pollutants in general, of which lead is evidently now the most serious in its impact, (b) certain common nutrient deficiencies, particularly of zinc, and (c) neurotoxins of voluntary abuse, of which ethanol is still probably producing the most widespread social damage.

'All these chemical factors can damage the development and function of the brain—that organ on which *homo sapiens* is most dependent for his